



Radiation Safety Information Bulletin

**TACOM-Rock Island
Safety Office**

Issue 01-02

February 2001

Special points of interest:

- Have you signed-up for the TACOM-RI Radiation Safety Training course yet?
- Do you know what your radioactive commodities are and where they are?
- The annual RSO Conference hosted by TACOM-RI will be held 31 July - 2 Aug 2001. This year's theme will be: Making It Happen.
- Medics will be involved if personal injuries occur involving radioactive materials.
- A declaration of pregnancy must be voluntary, in writing, and it must be signed.

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The U.S. Army, by law and its own regulations, must comply with all applicable federal, state and local regulations in the use of hazardous or radioactive materials on its installations. An area that raises many questions in Radiation Safety and is of primary concern during inspections at all echelons is the area of training.

An area that raises many questions in Radiation Safety and is of primary concern during inspections at all echelons is the area of training.

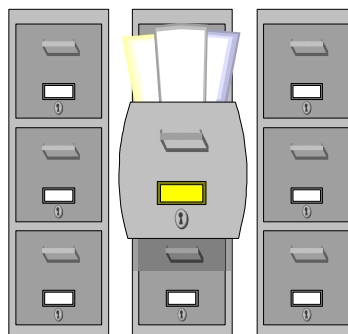
As regulations are written, it is the licensee's responsibility to provide training to all persons who will work with or near radioactive materials. This training should be focused to cover the unit activity and level of risk, and tailored to the materials that are found at your unit or installation.

For TACOM-RI licensed commodities the number of training hours is not mandated by any regulations, Federal or Army; however, the content of the training is mandated. As a minimum, you should be advised of the presence of radioactive materials and the precautions you must take that pertain to your level of work. Who can give this training?



TACOM – Rock Island, and U.S. Army Communications Electronics Command (CECOM), and the Chemical School offer training that meets our license requirements. Included in this training are: fundamental physics, biological effects of ionizing radiation, instrumentation, Federal laws (in particular 10 CFR 19 and 20), Army Regulations (AR 11-9), Wipe/leak testing, transportation (49 CFR 70 and 174), and Depleted Uranium.

... maintain your training records! If you have no records of the training, IT WASN'T DONE!

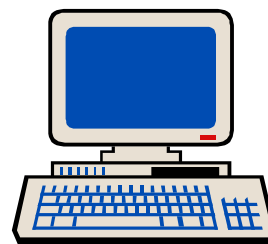


In the course we teach the instructional blocks are modular, and can be limited to awareness and recognition only. This may be preferable for those who do not handle the material but may frequent areas where radioactive material is used or stored. It is often more prudent for the installation/unit RSO to present this limited training. The TACOM-RI course is a license specific course addressing specific TACOM-RI license conditions/requirements, and broad-scoped addressing commodities which can be found through-out the ARMY at other activities, units or installations.

Requests for training should be addressed to the following:

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cookw@ria.army.mil
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DSN 793-2429

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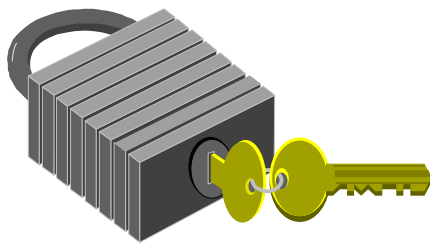


Securing Radioactive Commodities

This is not intended to slam anyone, but every now and then something comes up that we have to address. An incident occurred recently where a reservist signed out an M43A1 Chemical Agent Detector (CAD) from his unit so that he could take it home and “familiarize” himself with its operation. While he had the device in his apartment, the residence was broken into and the M43A1 was stolen along with some personal property.

Is this just another missing Chemical Agent Detector? Well as one car rental company might say, not exactly.

Is this just another missing Chemical Agent Detector? Well, as one car rental company might say, not exactly. The TACOM-RI 12-00722-06 NRC license limits coverage of our radioactive materials to use or storage of those material on ARMY installations or training areas. When the M43A1 CAD in this case was moved to a civilian location it amounted to a transfer of licensed radioactive material to an unlicensed location.



Always keep devices containing licensed radioactive materials in a locked area when they are not in use.



This is a violation of 10 CFR 30.41. The fact that the individual took the device to familiarize himself with its operation indicates that the individual was not properly trained. So releasing the M43A1 CAD to him unsupervised violated several aspects of 10 CFR parts 19 and 20. The theft only served to underscore the fact that releasing the M43A1 CAD to the soldier was a really bad idea. This made possible the loss of control and potential exposure of members of the general public to radioactive material.

Above all, never take these things to private residences and never transport them in private automobiles.

Many of the incidents we deal with concerning TACOM Rock Island radioactive commodities are lost equipment. Lost equipment is inevitable in an Army spread over most of the country and half of the world. When equipment losses involve radioactive materials, matters become more complicated. The Nuclear Regulatory Commission calls this kind of incident a “loss of control” of radioactive material. The implication is that the radioactive material has moved from a secure location to an unknown location where anyone can get to it. By anyone, the NRC means the “general public”. This is anyone who is unlikely to encoun-

ter licensed radioactive materials in the course of employment (even home burglars!).

Always keep devices containing licensed radioactive materials in a locked area when they are not in use. In the case of the M43A1 CAD this is usually the unit NBC room or a locked cabinet within the NBC Room where access can be controlled. Units must maintain up to date and accurate lists of personnel who have been trained to use the devices. Only trained persons may be allowed to hand receipt the devices from the assigned storage location, and then only for authorized uses within the installation boundary or at an authorized training area.

When the devices are in use, regular checks need to be made to insure that the devices are still under proper control. This is especially necessary with the M43A1 CAD. The M43A1 CAD is designed for remote operation beyond the perimeter. It is very easy for these devices to be run over by vehicles, or to be picked up by individuals who come across them. All someone has to do is disconnect the wires and the device is gone. Direct surveillance of the device would be best but regular checks of deployed devices should be done as a substitute. Will you find this written in your technical manuals for the device? No you won't, but common sense and the hassle that comes with a lost device suggests that this is good practice. Above all, never take these things to private residences and never transport them in private automobiles.



RSO Conference 2001 – Making It Happen!



The TACOM-RI Safety Office is planning to host an annual Radiation Safety Officer (RSO) Conference again this year. The annual RSO conference has been a great success in bringing the Army Radiation community a little closer together and its continued success is directly proportional to the participation of this community.

The Army Radiation Safety Program is clearly evolving. What is not always clear is how the program works for you.

This year we would like the conference to focus on how the program works for you and what can be done to better support our customer, the soldiers in the field. The 3rd annual conference will be a great forum to discuss how to make the program work for you.

Once again we are soliciting presentations for this year's conference agenda. Presentations must be applicable to the radiation in safety program. If you have ideas for topics, speakers or would like to make a presentation yourself, we want to hear from you!

The conference is a great way to network ... and to be introduced to the resources available.

Lets make this the best conference to date and we'll see you there.

The annual RSO conference has been a great success in bringing the Army Radiation community together

The conference is a great way to network with your colleagues, the licensee and be introduced to the resources available such as training, assist visits, incident response, etc.

If there is a topic you would like to see addressed, please contact Wayne Cook, DSN 793-2429, (309) 782-2429, email: cookw@ria.army.mil. Please submit your ideas now while the slate is clean.

The Conference this year will again be held at the Radisson Quad City Plaza Hotel and Conference Center in Davenport Iowa. We will begin on July 30th at 7:00 PM with a welcome mixer. The mixer is a "no host" event and will feature a cash bar and snacks. The Conference will officially commence on Tuesday, July 31st at 8:00 AM and conclude with a cocktail party and dinner banquet on Thursday night August 2nd. A tentative agenda will be posted on the TACOM-RI website shortly (<http://www-acala1.ria.army.mil/LC/R/RS/conf.htm>).

Lets make this the best conference to date and we'll see you there.



Why All The Medical Stuff ?

When we train on emergency procedures, students constantly ask “why do we keep telling them to treat the patient? Are we training commodity users or medics?”

Without insulting anyone’s intelligence, the answer is quite simple. Most accidents involve people, EMTs routinely respond to accidents even though the injuries may be minor. Usually accidents involving the radioactive material found in commodities, pose very little hazard to the victim(s) or the attendants from the radiation perspective. However, you still have to deal with the loss of control of radioactive material.

Most of the time accidents involving the radioactive material found in commodities, pose very little hazard to the victim... However, you still have to deal with the loss of control of radioactive material.

The immediate procedures for dealing with commodities that may have been compromised are basic and automatic: Bag it, tag it, and call the RSO. Most personnel understand the secondary procedures also: moving personnel upwind, ventilating (for Tritium), and cordoning off the area until it can be monitored.



Whenever there is a personal injury, the whole situation changes. The most common injury associated with commodity use is crush or abrasion (scrapes and scratches) type of injuries.

The immediate procedures for dealing with commodities that may have been compromised are basic... Bag it, tag it, and call the RSO.

The important thing to remember about these types of injuries is, that if the radioactive material containment was breached, there is now a direct avenue for the radioactive material to get into the person’s blood. If there is moderate or excessive bleeding you now have the possibility of dual hazard labeled material (radiological and blood borne).

Adding a couple of steps before you start the normal immediate actions will benefit the situation in the long run.

1. Know that the hazard to uninjured personnel from commodity radioactive material is minimal. So, take care of the injured person first.

2. Remember that there still is the possibility of spreading contamination. Be careful about where people go (onlookers and care givers) and where the individual goes and what they come in contact with.
3. Ensure that the caregivers are informed that radioactive material is involved. The military medical staffs are more than capable of handling the situation if properly informed.

... if personal injuries are involved it's impossible not to get medics involved, and caring for injured personnel take precedence over property, always.

Remember that if personal injuries are involved it's impossible not to get medics involved. Caring for injured personnel takes precedence over property always. Just like with buddy aide, the immediate caregiver might just be you.

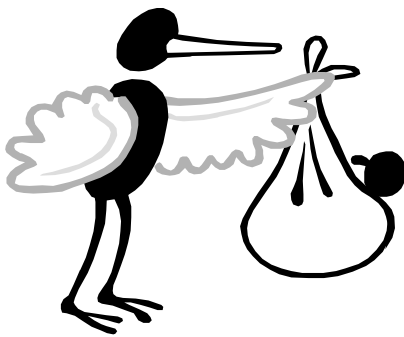


TACOM-RI Radioactive Commodities and Pregnant Workers

We routinely receive questions as to whether or not pregnant females who work with our commodities must be moved to other jobs during the period of their pregnancy.

The 10 CFR 20.1208 states that licensees must ensure that the dose equivalent to an embryo/fetus due to the occupational exposure of a declared pregnant woman does not exceed 0.5 rem (5 mSv) during the entire pregnancy. The caveat to this rule is that it only applies in situations where a woman declares herself in writing to be pregnant.

... a declaration of pregnancy is voluntary on their part... it must be submitted in writing ...



The NRC takes a very broad interpretation regarding who constitutes an occupationally exposed individual and therefore requires training under 10 CFR 19.12. As a general rule licensees must train any persons who are liable to exceed a dose in excess of 100 mrem according to 10 CFR 19.12. In most cases this will only apply to soldiers and civilians who perform maintenance on TACOM-Rock Island radioactive commodities.



... the dose equivalent for the embryo/fetus is 500 mrem throughout the pregnancy from the date of the declaration until the end of the pregnancy.... Declaration of pregnancy obligates employers to monitor exposure. Temporary transfers of persons to other jobs is warranted only if the likelihood exists that the 500 mrem limit could be exceeded.

Regulatory Guide 8.13 specifies that all female workers who must be trained to comply with 10 CFR 19.12 also should be provided with the instruction on their rights in the event they declare themselves to be pregnant.

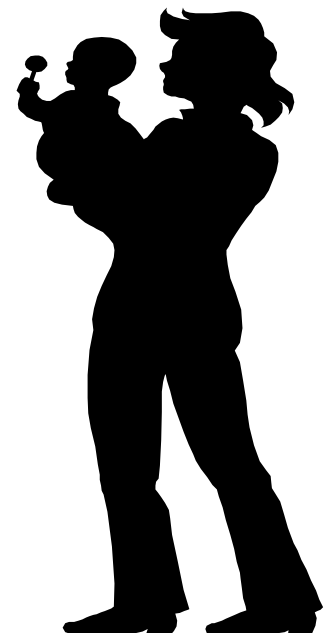
The appendix to Regulatory Guide 8.13 contains the points of instruction that should be provided to female workers. The primary fact is that a declaration of pregnancy is **voluntary** on their part and that it must be submitted in writing (verbal notification to superiors is NOT sufficient) for the dose rates specified in 10 CFR 20.1208 to be placed in effect for them.

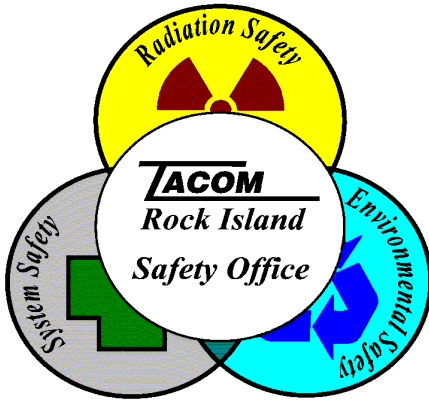
Employers are not required to implement any changes in job assignments, to comply with 10 CFR 20.1208, for female workers intending to become pregnant,

until a worker declares herself in writing to be pregnant.

A written declaration of pregnancy must contain the date on which it was submitted, the fact that they are declaring themselves pregnant under the provisions of 10 CFR 20.1208 and the month and year that conception is believed to have occurred. The worker must sign the statement.

Keep in mind that the maximum dose equivalent for the embryo/fetus is 500 mrem throughout the pregnancy from the date of the declaration until the end of the pregnancy. For TACOM-Rock Island radioactive commodities there should be no difficulty staying well under this limit. Declaration of pregnancy obligates employers to monitor exposure. Temporary transfers of persons to other jobs is warranted only if the likelihood exists that the 500 mrem limit could be exceeded. The chance that would happen with TACOM-RI commodities is negligible. Only in the most extreme accident situation with tritium fire control devices would this be possible.





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Visit us on the web!
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